

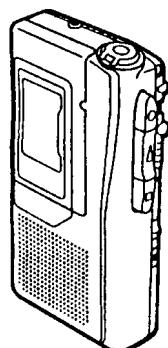


**TP-M115**  
**TP-M105**

YUB YUB3

YB YBB YHB

YJB YLB



# SERVICE MANUAL

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MICROCASSETTE RECORDER

BASIC TAPE MECHANISM : M-187

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**aiwa**  
S/M Code No. 09-003-341-9N1



## SPECIFICATIONS

<b>Track system:</b>	Micro cassette, 2 tracks 1 channel, monaural						
<b>Usable tapes:</b>	 (Normal position type)						
<b>Frequency response:</b>	250 - 5,000 Hz (2.4 cm/sec) EIAJ						
<b>Tape speed:</b>	2.4 cm/sec or 1.2 cm/sec switchable						
<b>Microphone:</b>	Electret condenser microphone (monaural)						
<b>Maximum output:</b>	110 mW (EIAJ/DC)						
<b>Output jack:</b>	EARPHONE jack (monaural mini-jack) (1)						
<b>Other jack:</b>	DC 3 V jack						
<b>Speaker:</b>	Diameter 36 mm, 4 ohms						
<b>Recording system:</b>	DC bias						
<b>Erasing system:</b>	Magnet erasure						
<b>Power sources:</b>	DC 3 V using two size AA (R6) dry cell batteries AC house current using the AC adaptor Aiwa AC-302						
<b>Battery life:</b>	<table border="1"> <thead> <tr> <th>Battery</th> <th>Battery life EIAJ Recording</th> </tr> </thead> <tbody> <tr> <td>Manganese(R6P) batteries</td> <td>Approx. 7 hrs.</td> </tr> <tr> <td>Alkaline(LR6) batteries</td> <td>Approx. 24 hrs</td> </tr> </tbody> </table>	Battery	Battery life EIAJ Recording	Manganese(R6P) batteries	Approx. 7 hrs.	Alkaline(LR6) batteries	Approx. 24 hrs
Battery	Battery life EIAJ Recording						
Manganese(R6P) batteries	Approx. 7 hrs.						
Alkaline(LR6) batteries	Approx. 24 hrs						
<b>Dimensions:</b>	63.8 (W) x 121(H) x 25.7 (D) mm (2 5/8 x 4 7/6 x 1 1/16 in)						
<b>Weight:</b>	Approx. 116 g (4.1 oz.) (excluding batteries)						

- Design and specifications are subject to change without notice.

## ACCESSORIES LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HX8-901-010		IB,YU(3L)C<115U,115U3>
1	8A-HX8-902-010		IB,YHJ(ECC)C<105YHB,105YJB>
1	8A-HX8-904-010		IB,YL(3L)C<105YLB>
1	8A-HX8-905-010		IB,Y(EGF)C<105YB>
1	8A-HX8-906-010		IB,Y(SID)C<105YB>
1	8A-HX8-907-010		IB,Y(PHNCZ)C<105YB>

## ELECTRICAL MAIN PARTS LIST

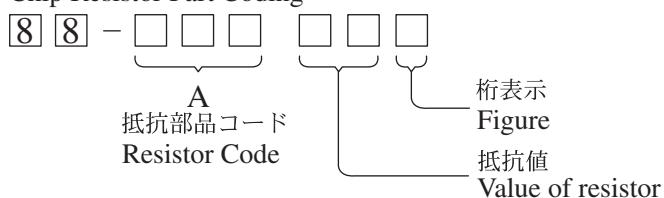
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC				C27	87-010-186-080	CAP,CHIP 4700P	
	85-TM5-604-010	IC,LA4165M		J1	85-TM5-605-010	JACK,HSJ1456	
				J2	87-A60-849-010	JACK,DC DIA 2.75 BLK	
				LED2	82-HX5-601-010	LED,KM2520A01SRC001 RED	
				S1	82-HX5-602-010	SW,PUSH PS42D07	
MAIN C.B				S2	87-031-816-010	SLIDE SWITCH<115U,115U3>	
C1	87-010-193-080	CHIP CAPACITOR,0.033		S3	87-031-816-010	SLIDE SWITCH	
C2	87-010-186-080	CAP,CHIP 4700P		S4	87-036-343-010	SW,SL 2-2-2	
C3	87-010-185-080	C-CAP,S 3900P-50 B		S5	85-TM5-608-010	SW,LEAF LSA-1114P	
C4	87-010-082-010	CAPACITOR, 220MF 4V/87-0		S8	87-A90-826-010	SW,LEAF LSA-1114P	
C5	87-010-072-010	CAP 2.2-50V		SFR1	85-TM5-615-010	SFR,5K V FRB-062	
C6	87-010-184-080	CHIP CAPACITOR 3300P(K)		SFR3	87-A91-282-080	C-SFR,2.0K H RVG3S08	
C7	87-010-198-080	CAP, CHIP 0.022		VR1	85-TM5-609-010	VR,RTRY 10KAX2 V	
C8	87-010-186-080	CAP,CHIP 4700P					
C9	87-010-504-080	CAP, CHIP TANTALUM 0.47-25					
C10	87-010-075-010	CAP,10U-16V H5					
C11	87-010-490-010	CAP,E 0.1-50 GAS<115U,115U3>					
C12	87-A10-952-080	C-CAP,TN 22-4 M A MCM<115U,115U3>					
C13	87-010-082-010	CAPACITOR, 220MF 4V/87-0					
C14	87-010-082-010	CAPACITOR, 220MF 4V/87-0					
C15	87-010-082-010	CAPACITOR, 220MF 4V/87-0					
C16	87-010-178-080	CHIP CAP 1000P					
C17	87-010-505-080	CA, CHIP TANTALUM 1-16					
C18	87-010-504-080	CAP, CHIP TANTALUM 0.47-25					
C22	87-010-746-080	CAP, TANTAL 10-4					
C23	87-010-494-010	E CAP 1-50					

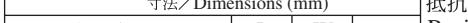
Qチップ抵抗部品コード／CHIP RESISTOR PART CODE

### チップ抵抗部品コードの成り立ち

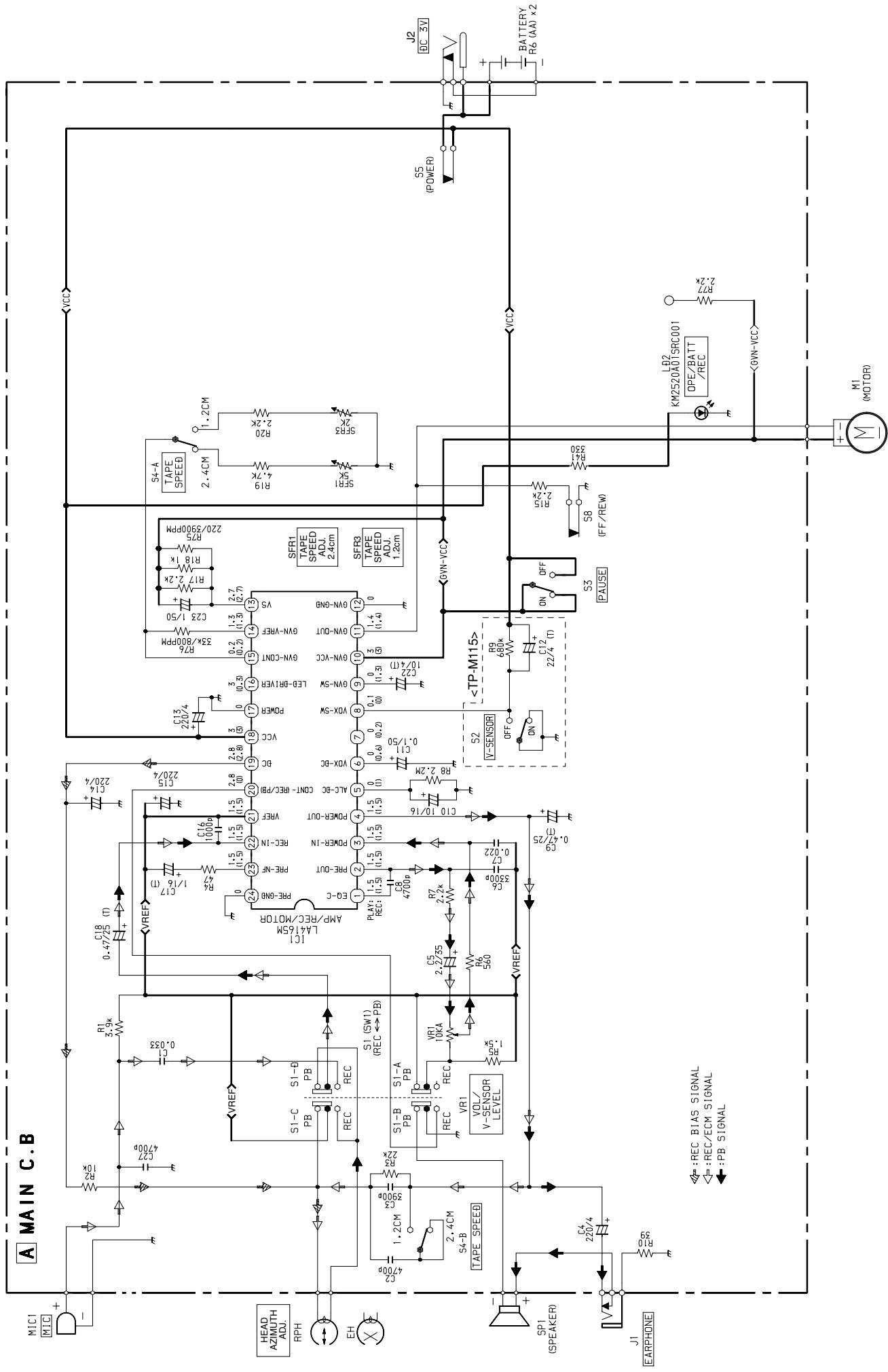
## Chip Resistor Part Coding



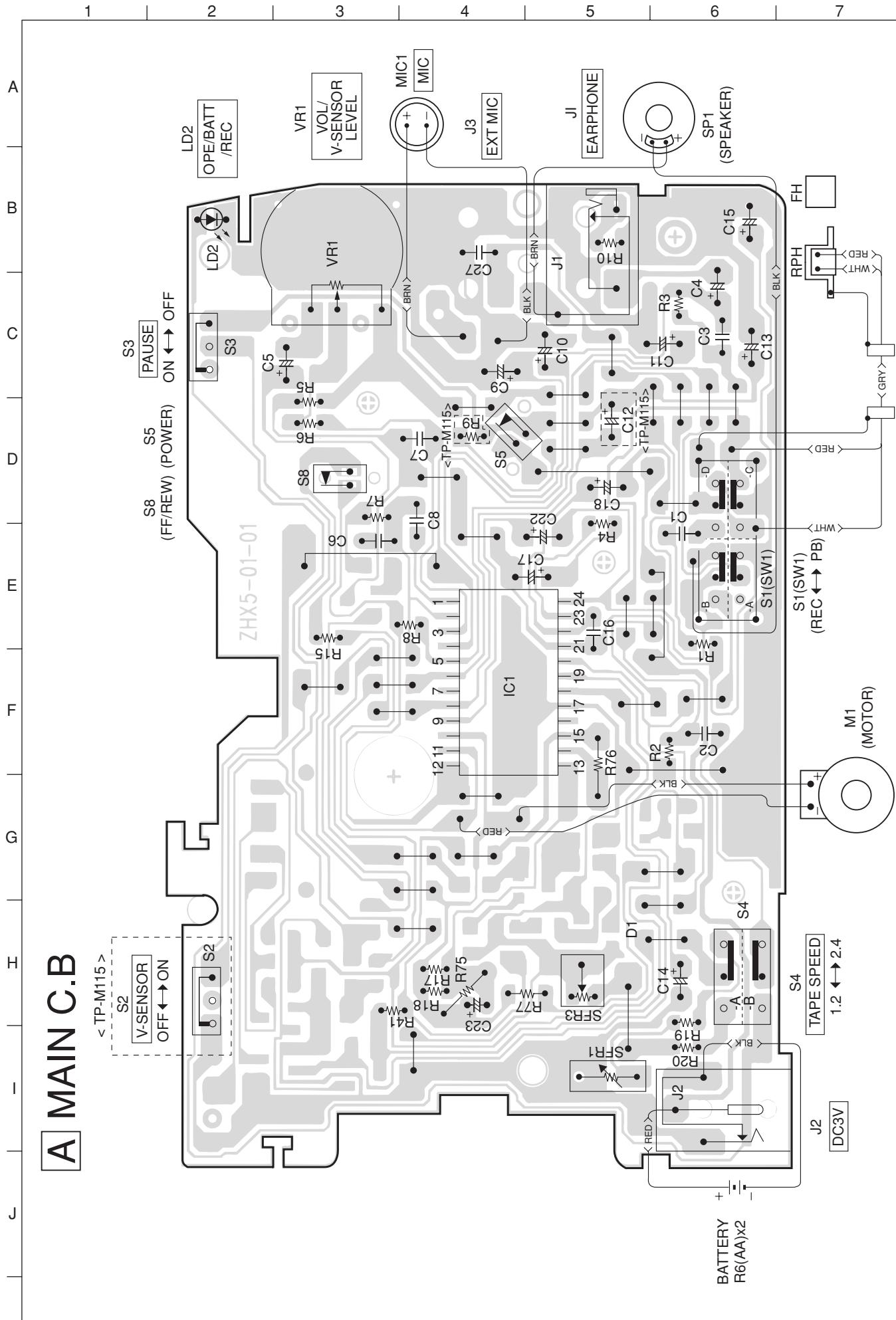
## チップ抵抗 Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法/Dimensions (mm)			抵抗コード Resistor Code : A	
				外形/Form	L	W		
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

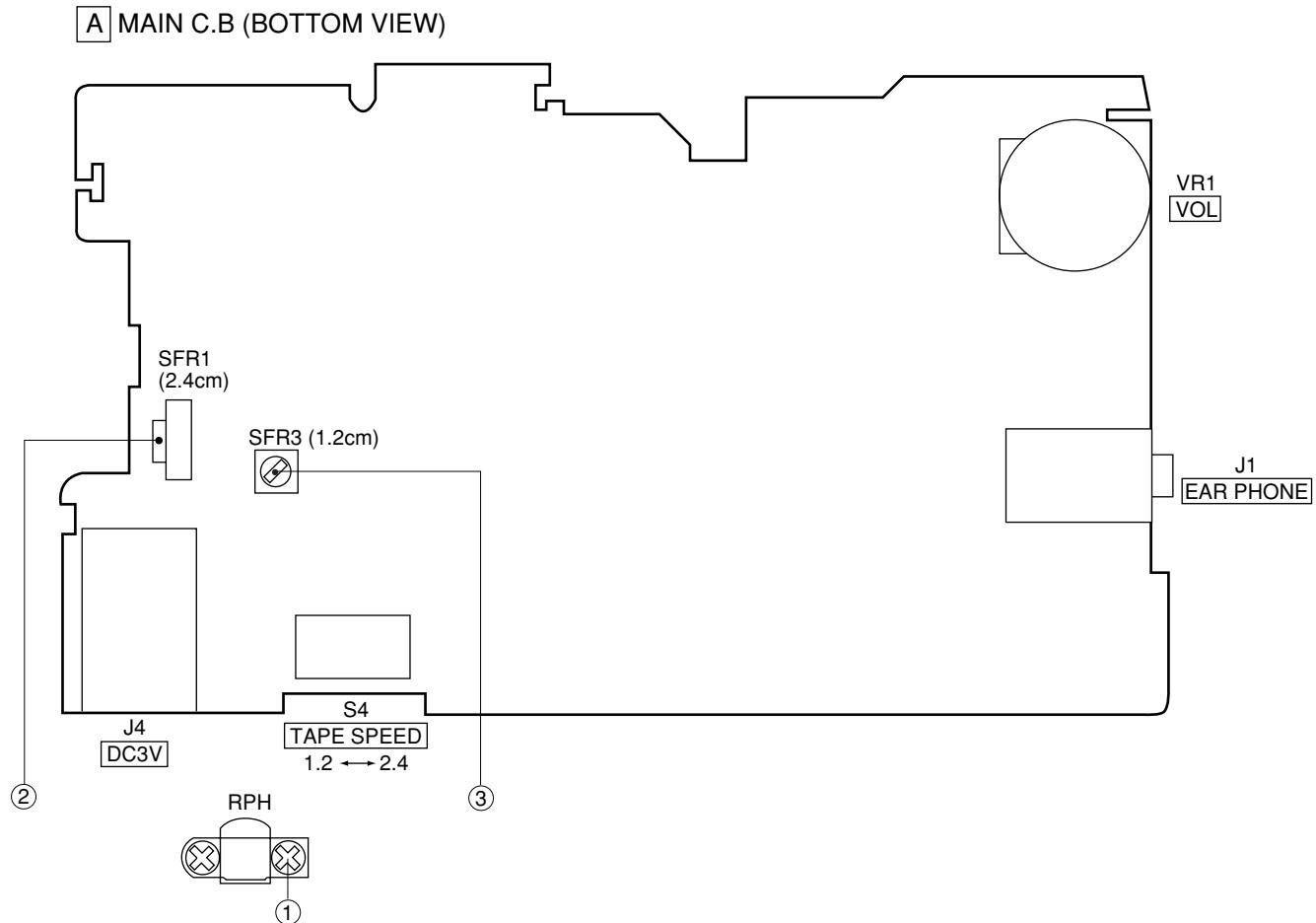
# SCHEMATIC DIAGRAM



# WIRING



## ADJUSTMENT



### 1. Head Azimuth Adjustment

Setting: • Test tape: TTS-930

- Tape speed: 2.4 cm
- Adjustment point: Head Azimuth Adjustment screw

Method: Playback the 5 kHz signal of the test tape (TTS-930) and adjust screw so that the output becomes maximum.

### 2. Tape Speed Adjustment (2.4cm)

Setting: • Test tape: TTS-900

- Volume: MAX
- Adjustment point: SFR1

Method: Playback the test tape (TTS-900) and adjust SFR1 so that the tape speed is become  $3000 \pm 10$ Hz.

### 3. Tape Speed Adjustment (1.2cm)

Setting: • Test tape: TTS-910

- Volume: MAX
- Adjustment point: SFR3

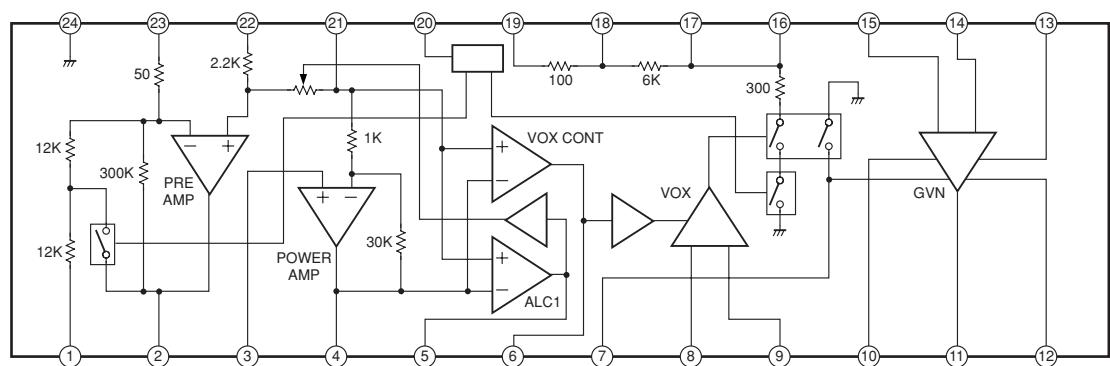
Method: Playback the test tape (TTS-910) and adjust SFR3 so that the tape speed is become  $3000 \pm 90$ Hz.

## PRACTICAL SERVICE FIGURE

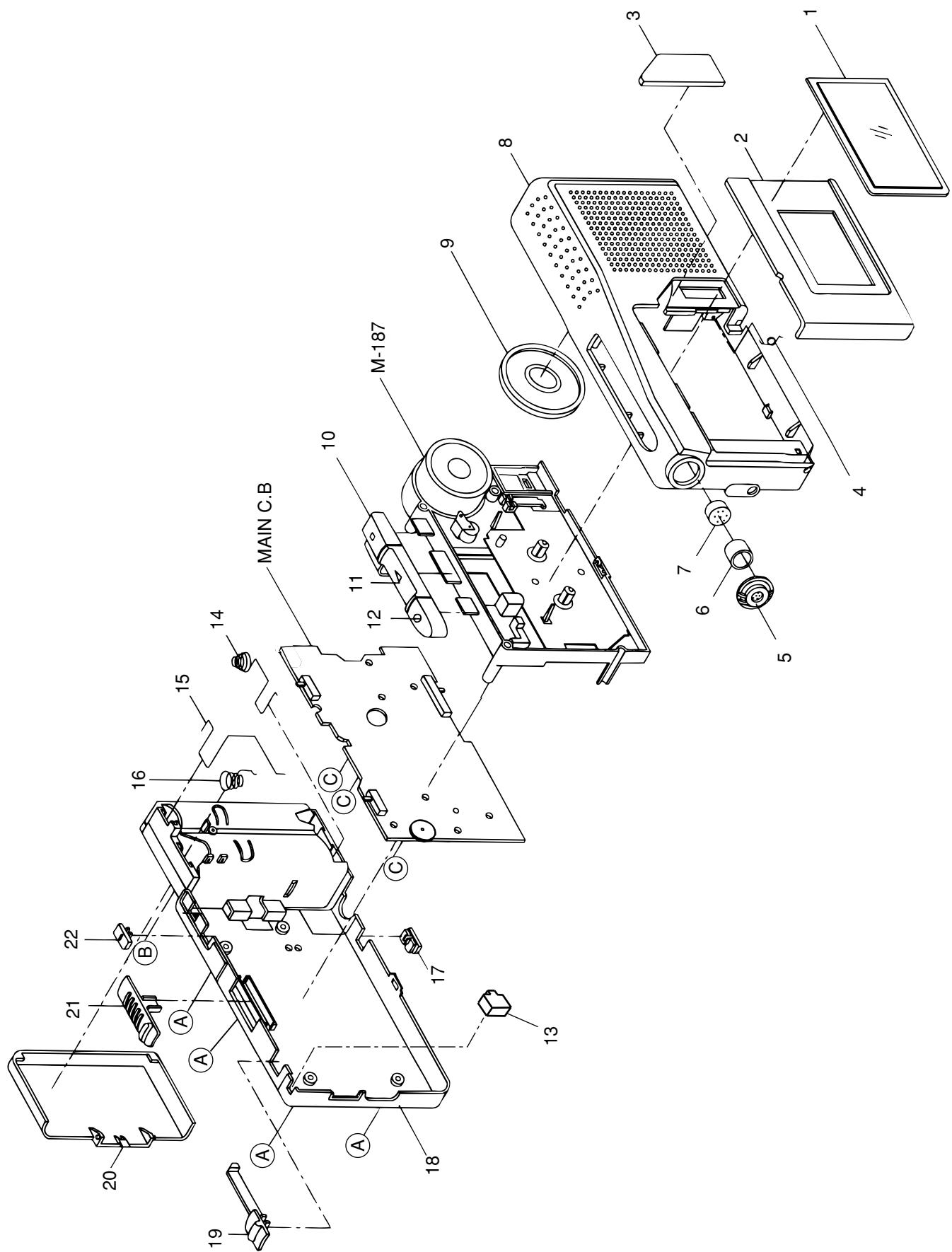
Tape speed:	$3000 \text{ Hz} \pm 90 \text{ Hz}$
Wow & flutter:	Less than 0.65% (RMS) (2.4cm)
	Less than 0.65% (RMS) (1.2cm)
Take-up torque:	4 ~ 12 g-cm
F.F torque:	30 ~ 150 g-cm
Rew torque:	25 ~ 60 g-cm
Back tension:	Less than 1.3 g-cm
S/N ratio:	More than 50 dB (DC. PB)
	More than 26 dB (DC. R/PB)
Noise level:	Less than 1.7 mV (DC.Vol Max. PB)
	Less than 18 mV (DC. Vol Max. R/PB)
Erasing ratio:	More than 40 dB (1 kHz)
Test tape:	TTS-900 (Wow & flutter/Tape speed – 2.4 cm)
	TTS-910 (Wow & flutter/Tape speed – 1.2 cm)
	TTS-920 (Distortion/Output)
	TTS-930 (Azimuth)
	TTS-940 (REC/PB)

# IC BLOCK DIAGRAM

IC, LA4165M



MECHANICAL EXPLODED VIEW 1/1



## MECHANICAL MAIN PARTS LIST 1/1

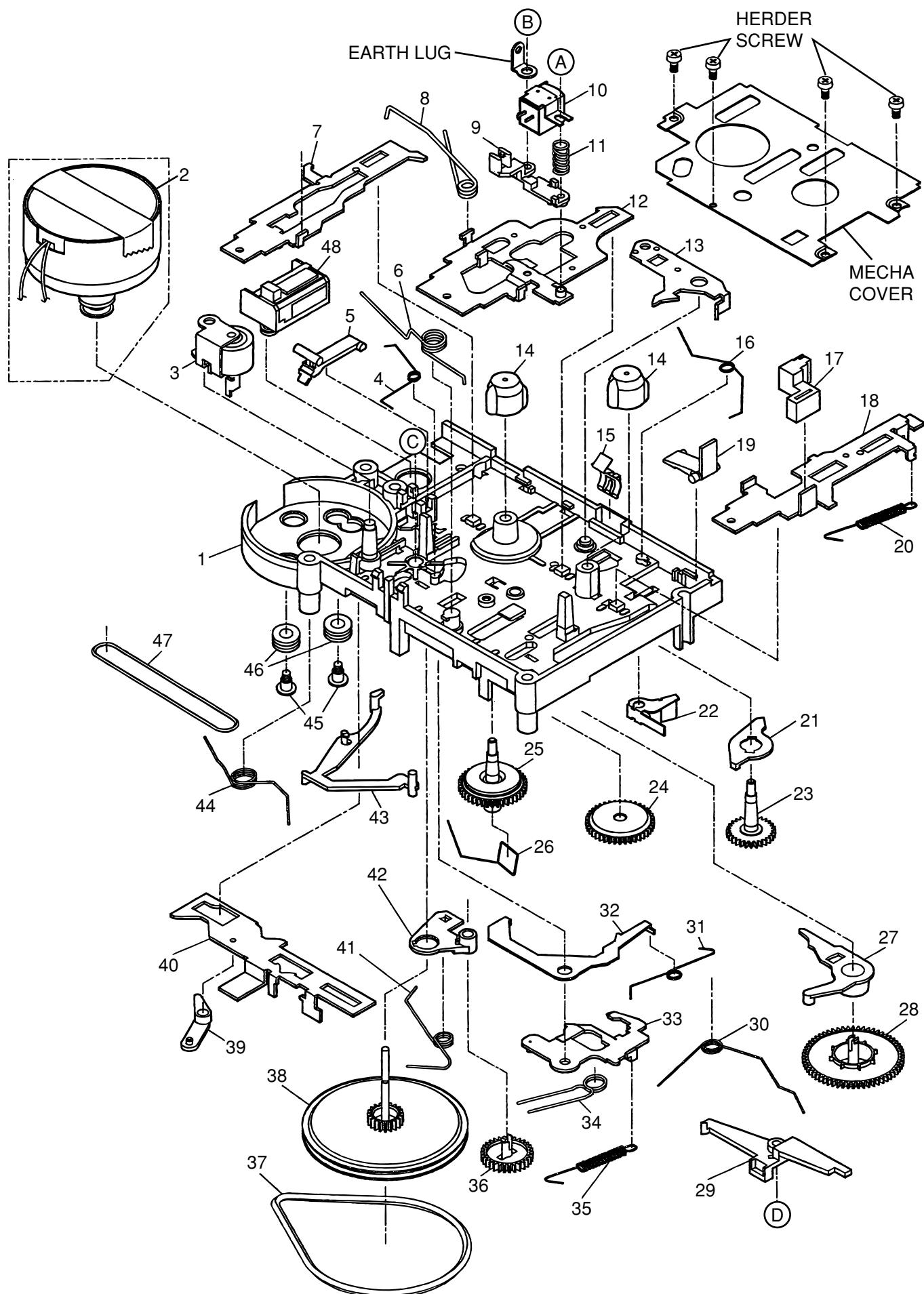
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REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HX8-009-010		WINDOW,CASS M105<EXCEPT 115U,115U3>
1	8A-HX8-003-010		WINDOW,CASS M115 YU<115U,115U3>
2	8A-HX8-008-010		LID,CASS B M115/M105
3	8A-HX8-010-010		LENS,COUNTER M105 Y<EXCEPT 115U,115U3>
3	8A-HX8-004-010		LENS,COUNTER M115 YU<115U,115U3>
4	8Z-HX5-201-010		SPR,CASS
5	8A-HX8-005-010		COVER, MIC M115/M105
6	S6-HX5-210-000		CUSHION MIC
7	8A-TM1-639-010		ECM,KUC3523
8	8A-HX8-006-010		CABI,FRONT B M105 Y<EXCEPT 115U,115U3>
8	8A-HX8-001-010		CABI,FRONT B M115 YU<115U,115U3>
9	S1-440-004-210		SPKR,1.4' (36mm) 4 OHM 0.4W
10	8Z-HX7-015-010		BTN,CASS STOP YU
11	8Z-HX7-014-010		BTN,CASS PLAY YU
12	8Z-HX7-013-010		BTN,CASS REC YU
13	8Z-HX5-020-010		LENS,LED
14	85-TM5-203-010		SPR,BAT(+/-)
15	85-TM5-204-010		SPR,BAT(+)
16	85-TM5-205-010		SPR,BAT(-)
17	8Z-HX7-021-010		KNOB,SL 1,2/2,4 YU
18	8A-HX8-007-010		CABI,REAR B M105 Y<EXCEPT 115U,115U3>
18	8A-HX8-002-010		CABI,REAR B M115 YU<115U,115U3>
19	8Z-HX7-020-010		KNOB,SL PAUSE YU
20	8Z-HX7-007-010		LID,BATT YU
21	8Z-HX7-019-010		KNOB,SL FF/REW YU
22	8Z-HX7-035-010		KNOB,SL V-SENSOR YU<115U,115U3>
A	87-261-043-410		V+2-20
B	87-261-553-310		V+2-6 BLK
C	87-261-533-310		SCREW V+1.7-6 BLK

### COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

MECHANISM EXPLODED VIEW 1/1



## MECHANISM MAIN PARTS LIST 1/1

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REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S1-800-01K-000		CHASSIS ASSY	27	S1-800-780-000		REW ARM
2	SR-F30-0C1-427		MOTOR ASSY	28	S1-800-270-000		REW CEAR
3	S1-800-13K-000		PINCH ARM ASSY	29	S1-800-390-000		SHUT OFF ARM
4	S1-800-100-000		EARTH SP	30	S1-800-800-000		THRUST SP
5	S1-800-080-000		HEAD BASE SP	31	S1-800-440-000		REC LOCK SP
7	S1-800-060-000		STOP LAVER	32	S1-800-430-000		REC LOCK PLATE
8	S1-800-120-000		PINCH ARM SP	33	S1-800-170-000		SW ARM
9	S1-800-150-000		AZ SPACER	34	S1-800-220-000		FR LEVER SP
10	ST-MC2-13E-000		R/P HEAD	35	S1-800-180-000		SW ARM SP
11	S1-800-160-000		AZIMUTH SP	36	S1-800-260-000		CENTER GEAR
12	S8-000-700-000		HEAD BASE	37	SV-400-000-000		MAIN BELT
13	S1-800-040-000		LOCK PLATE	38	S1-800-35K-000		FW CP ASSY
14	S1-800-290-000		REEL CAP	39	S1-800-740-000		RESET ARM(A)
15	S1-800-730-000		CST HOLDER SP	40	S1-800-210-000		FR LEVER
16	S1-800-050-000		LOCK PLATE SP	41	S1-800-250-000		CENTER ARM SP
17	SE-695-100-000		E HEAD	42	S1-800-240-000		CENTER ARM
18	S1-800-090-000		REC LEVER	45	SM-100-075-000		MOTOR SCREW
19	S1-800-030-000		REC LOCK LEVER	46	S3-741-150-000		RUBBER CUSHION
20	S1-800-760-200		REC LEVER SP	A	S3-PB1-4X6-500		SCREW
21	S1-800-450-000		RESET ARM	B	S3-PB1-4X2-500		SCREW
22	S1-800-720-000		REC SW LEVER	C	S1-0X2-4X0-5LC		L-CUT-W-W
23	S1-800-280-000		REEL (S) GEAR	D	S1-2X3-0X0-188		L-CUT-W-Y
24	S1-800-410-000		SHUT OFF GEAR	E	S2-1X4-X02-LWR		LW(RED)
25	S1-800-30K-000		REEL (T) ASSY				
26	S1-800-510-000		SHUT OFF SP				

サービス技術ニュース	
番号	連絡内容
G- -	
G- -	
G- -	

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